

MTW Annual Review Appendix 6 – Rehabilitation Summary

Rehabilitation Site Name	Type	Coordinates (GDA2020)	Area (ha)	Rehabilitation Summary
CD RL180	Woodland	318,914.09 E 6,389,648.23 N	1.5	<ul style="list-style-type: none"> ▪ The landform was constructed from a waste emplacement. ▪ The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is 10 to 14 degrees with limited areas at 16 to 18 degrees. The slope has a primarily easterly aspect. ▪ Drainage is via rock-lined drainage lines, directing run-off to sediment control structures to the east. ▪ Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. ▪ Clay loam/sandy clay loam topsoil from existing topsoil stockpiles was spread at a nominal thickness of 100mm. ▪ Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively. ▪ Growth medium preparation included ameliorant incorporation, rock windrowing, rock picking, and aerating as required ▪ Selective weed control of mainly <i>Galenia pubescens</i> was undertaken prior to sowing as weed and desirable native species had volunteered from the topsoil seed bank. ▪ The area was sown in September with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement. ▪ Selective weed control of mainly <i>Galenia pubescens</i> was undertaken after sowing when desirable native species and weed species had started to germinate.
CD RL185 Spoil/Compost	Woodland	319,915.41 E 6,389,705.84 N	0.5	<ul style="list-style-type: none"> ▪ The landform was constructed from a waste emplacement. ▪ Typical slope of the landform is 10 degrees with a primarily southerly aspect. ▪ Drainage is via easterly draining contours reporting to an engineered rock-lined chute. ▪ Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. ▪ No topsoil was added, spoil has been used as the growth medium.

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				<ul style="list-style-type: none"> Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively. Growth medium preparation included ameliorant incorporation, rock windrowing, rock picking, and aerating as required The area was sown in September with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.
NPN RL185 Topsoil A	Woodland	317,595.39 E 6,391,651.07 N	5.5	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is 14 degrees. The slope has a primarily easterly aspect. No water management structures were required on this slope due to short length of slope. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. Clay loam/sandy clay loam topsoil from existing topsoil stockpiles was spread at a nominal thickness of 100mm. Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively. Growth medium preparation included ameliorant incorporation, rock windrowing, rock picking, and aerating as required The area was sown in September with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.
NPN RL185 Topsoil B	Woodland	317,309.02 E 6,392,099.08 N	1.1	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is 10 to 14 degrees. The slope has a primarily westerly aspect. Drainage lines direct run-off to sediment control structures to the north. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material.

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NPN RL185 Topsoil C	Woodland	317,294.44 E 6,392,202.45 N	1.0	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is 10 to 14 degrees. The slope has a primarily westerly aspect. Drainage lines direct run-off to sediment control structures to the north. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. Clay loam/sandy clay loam topsoil from existing topsoil stockpiles was spread at a nominal thickness of 100mm. Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively. Growth medium preparation included ameliorant incorporation, rock windrowing, rock picking, and aerating as required The area was sown in September with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.
NPN RL185 Topsoil D	Woodland	317,568.69 E 6,391,485.39 N	0.9	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is less than 10 degrees. The slope has a primarily westerly aspect. No water management structures were required on this section of landform. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material.

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CD Stockpile Base	Woodland	319,479.21 E 6,389,913.78 N	1.6	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform is flat in this area, no aspect. Area is flat and hence not requiring drainage controls. Landform surface preparation comprised minor shaping, deep ripping, rock raking, and removal of oversize rock material. Area was an old topsoil stockpile so there was remaining Clay loam/sandy clay loam topsoil from the floor of the stockpile at a nominal thickness of 100mm. Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively. Growth medium preparation included ameliorant incorporation and aerating as required The area was sown in October with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.
MTO RL155	Woodland	319,497.01 E 6,386,545.70 N	9.5	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is less than 10 degrees. The slope has a primarily westerly aspect. Drainage lines direct run-off to sediment control structures to the west. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material.

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MTO RL155 No Compost Trial	Woodland	319,533.04 E 6,386,404.50 N	1.6	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is less than 10 degrees. The slope has a primarily westerly aspect. Drainage lines direct run-off to sediment control structures to the west. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. Clay loam/sandy clay loam topsoil from existing topsoil stockpiles was spread at a nominal thickness of 100mm. Recycled gypsum was applied at a rate of 5t/ha. No compost was applied to trial area. Growth medium preparation included ameliorant incorporation, rock windrowing, rock picking, and aerating as required The area was sown in October with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.
NPN RL185 Topsoil E	Woodland	317,435.34 E 6,391,803.18 N	2.5	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is less than 10 degrees. The slope has a primarily westerly aspect. No water management structures were required on this section of landform. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material.

Rehabilitation Site Name	Type	Coordinates (GDA2020)	Area (ha)	Rehabilitation Summary
				<ul style="list-style-type: none"> Sandy loam topsoil from stripping areas in North Pit South was spread directly at a nominal thickness of 100mm. Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively. Growth medium preparation included ameliorant incorporation, rock windrowing, rock picking, and aerating as required The area was sown in October with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.
NPN RL185 No Compost trial	Woodland	317,394.34 E 6,391,864.08 N	1.2	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is less than 10 degrees. The slope has a primarily westerly aspect. No water management structures were required on this section of landform. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. Sandy loam topsoil from stripping areas in North Pit South was spread directly at a nominal thickness of 100mm. Recycled gypsum was applied at a rate of 5t/ha. No compost was applied to trial area. Growth medium preparation included ameliorant incorporation, rock windrowing, rock picking, and aerating as required The area was sown in October with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.
NPN RL185 Topsoil F	Woodland	317,223.21 E 6,392,199.62 N	1.7	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is less than 10 degrees. The slope has a primarily westerly aspect. No water management structures were required on this section of landform. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material.

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NPN RL185 Topsoil G	Woodland	317,118.53 E 6,392,308.28 N	0.6	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is 10 to 14 degrees. The slope has a primarily northerly aspect. Drainage lines direct water to rock lined drains to the north. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. Sandy loam topsoil from stripping areas in North Pit Northh was spread directly at a nominal thickness of 100mm. Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively. Growth medium preparation included ameliorant incorporation, rock windrowing, rock picking, and aerating as required The area was sown in November with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.
NPS RL160 Spoil/Compost	Woodland	318,411.77 E 6,391,150.27 N	0.8	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform is flat in this area, no aspect. Area is flat and hence not requiring drainage controls. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. No topsoil was added, spoil has been used as the growth medium.

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NPS RL185 Spoil/Compost	Woodland	317,652.77 E 6,391,311.87 N	2.3	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is less than 10 degrees. The slope has a primarily westerly aspect. Drainage lines direct water to the west. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. No topsoil was added, spoil has been used as the growth medium. Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively. Growth medium preparation included ameliorant incorporation, rock windrowing, rock picking, and aerating as required The area was sown in November with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.
MTO RL155 Spoil/Compost	Woodland	319,338.95 E 6,386,598.29 N	5.7	<ul style="list-style-type: none"> The landform was constructed from a waste emplacement. The landform has been designed using a geomorphological landform approach based on alluvial analogues. Typical slope of the landform is less than 10 degrees. The slope has a primarily westerly aspect. Drainage lines direct water to the west. Landform surface preparation comprised bulk shaping, deep ripping, rock raking, and removal of oversize rock material. No topsoil was added, spoil has been used as the growth medium. Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively.

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SPC Stockpile Base	Woodland		0.7	<ul style="list-style-type: none"> ▪ The landform was constructed from a waste emplacement. ▪ The landform is flat in this area, no aspect. ▪ Area is flat and hence not requiring drainage controls. ▪ Landform surface preparation comprised minor shaping, deep ripping, rock raking, and removal of oversize rock material. ▪ Area was an old topsoil stockpile so there was remaining Clay loam/sandy clay loam topsoil from the floor of the stockpile at a nominal thickness of 100mm. ▪ Soil ameliorants comprising recycled gypsum and Bettergrow Biomulch compost were applied at rates of 5t/ha and 50t/ha respectively. ▪ Growth medium preparation included ameliorant incorporation and aerating as required ▪ The area was sown in December with Diverse Native Woodland at 15.7kg/ha. Non-flowable (grass) seed was spread onto the surface using a direct drill and then the flowable components of the seed mix were spread via an air-seeder mounted on the aerator implement.



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MTW

MTW Rehabilitation Areas 2020

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Aerial photo taken December 2020

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